

Conformational changes ...

S/073/62/028/006/001/002
D202/D307

the solutions of PVP in MeOH. These effects are ascribed to a transition of PVP into a more compact convoluted form at 35°C, which yields pyridinium ions less readily than the lower temperature form, and is believed to be caused by the behavior of water molecules in the 30 - 40°C region. There are 4 figures.

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut im. V.Ya. Chubarya (Zaporozhe Institute of Machine Construction im. V.Ya. Chubar') ✓

SUBMITTED: April 19, 1961

Card 2/2

L 57081-65 EWT(m)/EFF(c)/EPR/EMP(j) Pc-4/Pr-4/Ps-4 WW/JAJ/PM

ACCESSION NR: AP5014529

UR/0069/65/027/003/0441/0445
539.43

3/
28
3

AUTHOR: Slyusarskiy, L. K.; Pavlov, N. N.; Dogadkin, B. A.

TITLE: Some aspects of sulfur vulcanization in the presence of dicumyl peroxide

SOURCE: Kolloidnyy zhurnal, v. 27, no. 3, 1965, 441-445

TOPIC TAGS: rubber mixture, rubber property, dicumyl peroxide, sulfur, diphenylguanidine

ABSTRACT: The vulcanization of polyisoprene rubber in the presence of dicumyl peroxide, sulfur, and diphenylguanidine was studied in nonpigmented stocks. The formation of cross-links was determined from data on swelling of the vulcanizates in benzene. The number of cross-links was calculated by means of nomograms. Dicumyl peroxide joins sulfur to the rubber in the form of groups of various structures. At the ratio 1 g-at S:1 mol dicumyl peroxide, the vulcanizates contain strong carbon-carbon and monosulfide bonds as well as polysulfide bonds. Sulfur in the stock has no effect on the decomposition of dicumyl peroxide. The effectiveness of the cross-linking of rubber by dicumyl peroxide in the presence of sulfur decreases, apparently because of the formation of intramolecular cyclic sulfides and because of process-

Card 1/2

L 57081-65

ACCESSION NR: AP5014529

es of degradation of the polymer. Diphenylguanidine inhibits the cross-linking of rubber by accelerating the decomposition of dicumyl peroxide, both when the peroxide is present alone and when sulfur is present with it. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomono-
sova (Moscow Institute of Fine Chemical Technology); Politeknicheskij institut,
Lodz', Pol'skaya Narodnaya Respublika (Polytechnic Institute, Lodz, Polish People's
Republic)

SUBMITTED: 29Sep64

ENCL: 00

SUB CODE: MT

NO REF SOV: 006

OTHER: 007

Card

282
2/2

67850

SOV/148-2-9-5/17

9.1300

AUTHOR: Glyusarskiy, V.A.

TITLE: On the Calculation of Delay Length of the Tapered Helix - Rilled Structure

PMACDIFIL: Izvestiya vysshikh shkolovskikh i spetsial'nykh, M. (Moscow), 1977, Vol. 1, Nr 9, p. 981 - (1977) (USSR)

ABSTRACT: The author analyzes the propagation of a circularly-polarized wave in a helix placed into an artificially anisotropic dielectric and into a diaphragm-type waveguide with conducting diaphragms. The analysis is based on a method of L.B. Fokhting, G.I. Shil'pina [Ref. 1], who investigated a waveguide consisting of a disk made of some anisotropic dielectric. The author mentions also the papers of V.I. Stepanov [Ref. 2] and B.N. Baryakov, V.T. Shchegolev [Ref. 3] on tapered helices in dielectric. R.D. Mikhlin and G.I. Shil'pina [Ref. 4] analyzed a tapered longitudinal helix of the

June 1/4

67850

SCV/142-2-5-5/19

On the Calculation of Delay Systems of the Type Helix - Ribbed Structure

external and internal conductors. Problems connected with losses in a coaxial helix were investigated in detail by L.N. Loshakov [Ref 8], thus the author of this paper covered only the additional losses, originating in the anisotropic medium between the helix and the waveguide. The analysis of such losses is very complicated for the general case and consequently the author limited his investigation to the case of high frequencies. According to A.I. Shtyrov [Ref 9], there is a unified opinion in regard to delay systems, consisting of an anisotropic dielectric and ribbed structures. Using these conceptions of the phenomena of complete internal reflection in such systems, it was shown that metal ribs are equivalent to some anisotropic dielectric. The dielectric constant of the latter along the propagation direction has a finite value, while the dielectric constant in the direction

Card 2/4

67850

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On the Calculation of Delay Systems of the Type Helix - Ribbed
Structure

perpendicular to the propagation will have infinitely large values. The author uses these results for the delay system investigated in this paper (a helix in a waveguide with dielectric diaphragms). He concludes that, when assuming that the dielectric constant is infinite in the relationships derived for such a device, analogous expressions will be obtained, which describe a helix placed into a waveguide with conducting diaphragms. The investigation of the aforementioned system is of interest for travelling wave tubes. The increased amplification factor for the unit wavelength with a somewhat contracted frequency band may be a distinctive feature of tubes with such a delay system. The results of the investigation of a helix in a waveguide, partially filled with an anisotropic dielectric, may be generalized to a certain degree for an analogous

Card 4/4

67050

SOV/142.2-5-5/19

On the Calculation of Delay Systems of the Type Helix - Ribbed Structure

delay system, where the dielectric is replaced by plasma. The publication of this article was recommended by the Kafedra radiofiziki (Department of Radio Physics) of the Kharkovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo (Kharkov State University imeni A.M. Gor'kiy). There are 1 circuit diagram, 1 diagram, 5 graphs and 11 references, of which 9 are Soviet and 2 English.

SUBMITTED: February 10, 1959 and, after re-working, March 18, 1959

Card 4/4

SLIUSARSKIY, V. A., Cand Phys-Math Sci -- (diss) "research into inhibiting systems of increased efficiency for tubes using traveling waves." Khar'kov, 1960. 8 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Khar'kov Order of Labor Red Banner State Univ im A. M. Gor'kiy); 150 copies; free; (KL, 26-60, 130)

SHESTOPALOV, V.P., SLYUSARSKIY, V.A., ANDRENKO, S.D., CHERNYAKOV, E.I.

Electromagnetic waves in a spiral wave guide with an anisotropic dielectric. Zhur. tekhn. fiz. 30 no.6:644-652 Je '60.

(MIRA 13:8)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M.Gor'kogo.
(Electromagnetic waves)
(Wave guides)

SHESTOPALOV, V.P., SLYUSARSKIY, V.A., YATSUK, K.P.

Investigating delay systems of the type spiral-anisotropic dielectric and spiral-finned structure. Part 2. Zhur. tekhn. fiz. 30 no.7:835-839 J1 '60. (MIRA 13:8)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo. (Radio circuits)

26801

S/142/61/004/002/003/010

E033/E435

9,4230

AUTHORS: Shestopalov, V.P., Kondrat'yev, B.V., Slyusarskiy, V.A.

TITLE: An electron beam in a coaxial spiral line with an anisotropic magneto-dielectric medium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1961, Vol.4, No.2, pp.155-164

TEXT: The propagation of electromagnetic waves in a coaxial, spiral line with an electron beam is investigated; the space between the spiral and the outer sheath being filled with an anisotropic magneto-dielectric medium. The article is divided into seven sections:

1. The spiral line consists of three ($i = 1, 2, 3$) regions:
 $i = 1 (0 \leq r \leq a)$ inside which a continuous, cylindrical, mono-energetic, electron beam is propagated along the z axis of the system; $i = 2 (a \leq r \leq b)$ the region between the beam and the spiral; $i = 3 (b \leq r \leq r_0)$ the region between the spiral and the sheath, which is filled with the anisotropic magneto-dielectric medium; ($r = a, b, r_0$ are the radii of the beam, of the spiral and of the sheath respectively; j_z is the beam current density).
 Card 1/6

26801

S/142/61/004/002/003/010

E033/E435

An electron beam ...

By using the field equations and the equation of motion of the charge and assuming small signals, the first relationship between the propagation constant h_n and the separation constant of the variables χ_n is obtained (from previous works quoted in the references)

$$(h_n^2 - \chi_n^2)(h_n - k_0)^2 = \frac{k_0}{k_1} \eta s (h_n^2 - k_1^2) \quad (1)$$

where $\eta = \sqrt{\mu_0/\epsilon_0}$; $k = \omega/c$; $k_1^2 = k^2 \epsilon_0 \mu_0$; ϵ_0 and μ_0 are the dielectric permittivity and magnetic permeability of the medium; $k_0 = \omega/V_0$, the wave number, corresponding to the mean velocity of the electrons v_0 ; $s = (4\pi/c)(j_0/2U_0)$, where U_0 is the constant potential difference given by $v_0^2 = (2e/m)(U_0)$; e is the charge and m the mass of an electron. The total current $j_z \cong j_t \cong j_0$ ($j_z = j_\varphi = 0$). The index $n = 1, 2, 3, 4$ indicates the number of the solution of the differential equation for h_n and χ_n . The propagation constant h_n determines the nature of the electromagnetic wave propagated in the line.

2. Expressions for the longitudinal components of the electric

Card 2/6

26801

S/142/61/004/002/003/010

E033/E435

An electron beam ...

and magnetic fields in regions $i = 1, 2$ are obtained. The remaining components of the fields are derived from the longitudinal components. The longitudinal components of the electric and magnetic fields in region 3 are obtained by using the diagonal tensors $\epsilon_{ik} = (\epsilon_r, \epsilon_\phi, \epsilon_z)$ and $\mu_{ik} = (\mu_r, \mu_\phi, \mu_z)$. The remaining components of the electro-magnetic fields in this region are derived from the longitudinal components.

3. To determine the propagation constants h_n and χ_n , the dispersion equation of the system is first obtained by using the boundary conditions at the surfaces of the beam, of the spiral and of the sheath for each of the n components of the fields. At the boundary of the electron beam, the condition of continuity of the tangential components of the electromagnetic field must be observed; at the surface of the sheath, these components must equal zero. At the surface of the spiral waveguide (assuming an equivalent isotropic-conducting cylinder), the tangential components of the electric field are zero and the components of the magnetic field inside and outside the spiral in the direction of its conductivity are continuous. From these conditions, the

Card 3/6

26801

S/142/61/004/002/003/010

E033/E435

An electron beam ...

amplitudes of the fields are expressed as $A_{1n} \approx E_{nz}(0)$, the strength of the longitudinal components of the electric field along the axis of the system. Thence, the dispersion equation is obtained. It is shown that the dielectric properties of the medium have much greater effect on the interaction of the field and the beam than the magnetic properties.

4. The simplified asymptotic form of the dispersion equation is used to find the value of the retardation. It is shown that the conditions for space-resonance for a spiral waveguide in an anisotropic medium are analogous to the same conditions for an isotropic magneto-electric. At low frequencies, the interaction of the waves with the beam is small.

5. The asymptotic form of the dispersion equation is also used for the case when $a \approx b \ll r_0$. Since a weak beam introduces very little change into the system, the excitation theory may be applied and equations for the reverse and forward waves obtained. The cubic equation for the forward wave gives three solutions and four sets of propagation parameters (one set for the reverse wave h_1, χ_1 , and three sets $h_{2,3,4}, \chi_{2,3,4}$ for the forward waves) are obtained. These show that the amplitudes of the waves with Card 4/6

26801

S/142/61/004/002/003/010

E033/E435

An electron beam ...

propagation constants h_1 and h_2 are constant, but waves with h_3 and h_4 have amplitudes which change proportionally to $\exp(\pm z \cdot \text{Im} h_{3,4})$. The amplitude change depends on the current density and on the parameters of the medium. The phase velocities are also investigated.

6. The power "fluxes" inside the spiral and between the spiral and the sheath are next investigated and simplified asymptotic expressions obtained. At high frequencies and with no sheath the total power flow is proportional to the general dielectric permittivity and inversely proportional to the permeability. The distribution of power inside and outside the spiral is investigated and comparisons made of the power "fluxes" in systems with an anisotropic magneto-dielectric and with a vacuum, with and without a sheath, at high and at low frequencies.

7. Finally, expressions are obtained for the wave and coupling impedance. It is shown that at high frequencies, the coupling impedance decreases with frequency but increases with increase in beam diameter. At low frequencies the coupling impedance is very much higher than at high frequencies. There are 12 Soviet references.

Card 5/6

26801

S/142/61/004/002/003/010

E033/E435

An electron beam ...

ASSOCIATION:

Kafedra radiofiziki

Khar'kovskogo gos. universiteta im. A.M.Gor'kogo
(Department of Radio-physics of the Khar'kov State
University imeni A.M.Gor'kiy)

SUBMITTED: March 7. 1960

Card 6/6

S/109/62/001/003/015/029
D266/D302

9.4230 (1502, 3304)

AUTHORS: Shestopalov, V.P., Slyusarskiy, V.A., and
Kondrat'yev, B.V.

TITLE: Electron beam in a helix with anisotropic dielectric

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 3, 1962,
475 - 482

TEXT: The purpose of the paper is to study theoretically and experimentally the effect of an anisotropic dielectric on the properties of a helicoidal waveguide. The helix is surrounded by a dielectric whose permittivity components are denoted by ϵ_z , ϵ_r and ϵ_ϕ .

Assuming an axially symmetric solution - and small signal conditions in the beam - the electric and magnetic intensities are obtained in the regions (i) $0 < r < a$, (ii) $a < r < b$ and (iii) $b < r < R$. The solutions are matched on the boundaries leading to a dispersion equation containing a large number of different Bessel functions. Plotting the right-hand side of the dispersion equation for several different geometries it is found that a function of the Card (1/3)

Electron beam in a helix with ...

S/109/62/007/003/015/029
D260/D302

in the presence of the dielectric. For a given beam velocity, however, the available bandwidth is smaller. If β_z/β_r is smaller the range of beam velocities resulting in amplification widens which is in agreement with the theoretical results of a previous paper of the authors (Ref. 1: ZhTF, 1959, 29, 9, 1317). The theory is confirmed by experiments on a waveguide. There are 7 figures, 1 table, and 3 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: L.J. Chu, B. Jackson, Proc. I.R.E., 1948, 36, 7, 859; B. Friedman, J. Appl. Phys., 1951, 22, 4, 443; W.J. Dodds, R.W. Peter, RCA Rev., 1953, 14 5, 502. X

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo (Khar'kov State University im. A.M. Gor'kiy)

SUBMITTED: July 3, 1961

Card 3/3

S/058/63/000/003/090/104
A059/A101

AUTHORS: Sapelkin, A. I., Slyusarskiy, V. A.

TITLE: On energy losses in a finned structure with a conducting plane above it

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 27, abstract 3Zh161
("Uch. zap. Khar'kovsk. un-t", 1962, v. 121, Tr. Radiofiz. fak.,
v. 5, 84 - 89)

TEXT: An expression for the attenuation in a broad comb has been found. In this case, the field in the grooves is approximated by the TEM wave, and the field above the grooves by one spatial harmonic. The magnetic field at the top of the projection is considered to be equal to the magnetic field at the entry of the groove.

I. Beluga

[Abstracter's note: Complete translation]

Card 1/1

ACCESSION NR: AR3000173

8/0274/63/000/004/A054/A054

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 4A331

AUTHOR: Sapelkin, A. I.; Slyusarskiy, V. A.

TITLE: Energy losses in ribbed structure with superposed conducting plane.

CITED SOURCE: Uch. zap. Khar'kovsk. un-t. Tr. Radiofiz. fak., v. 121, no. 5, 1962, 84-89

TOPIC TAGS: Energy losses; dispersion of waves; Vaynshteyn's procedure; "comb" delay system

TRANSLATION: Calculations are presented of the dispersion of waves in a delay system of the "comb" type, taking into account the influence of dimensions of ribs and slits on phase velocity value. The following assumptions are made: the presence of a single fundamental wave; ideal

Card 1/2

ACCESSION NR: AR3000173

conduction of the material of the comb; infinite length of comb; an averaging of the boundary conditions. The losses in the comb with conducting plane are determined. The procedure of Vaynshteyn is employed, taking in consideration only the principal wave. An expression for the attenuation constant is derived. Orig. art. has: 8 references. A. M.

DATE ACQ: 16May63 ENCL: 00

SUB CODE: 00

Card 2/2

ACCESSION NR: AR3000174

S/0274/63/000/004/A054/A054

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 4A332

AUTHOR: Kondrat'yev, B. V.; Slyuserskiy, V. A.

TITLE: Computation of losses in coaxial helical line filled with anisotropic magnetodielectric medium of finite conduction

CITED SOURCE: Uch. zap. Khar'kovs. un-t. Tr. Radiofiz. fak., v. 121, no.5, 1962, 26-31

TOPIC TAGS: energy losses; anisotropic magnetodielectric medium; helical waveguide; electromagnetic field

TRANSLATION: Problems are considered which involve losses brought about by an anisotropic magnetodielectric medium placed within a helical waveguide of coaxial type. An analysis is made of the instance of an axial anisotropy of the medium; the conductions of the media are assumed to be

Card 1/2

ACCESSION NR: AR3000174

very low, and losses at metallic surfaces are disregarded. The problem is being solved for symmetrical electromagnetic waves. Determinations are made of: transversal and axial components of the electromagnetic field; dispersion equation of the system; amplitudes of the fields; losses due to filling of the waveguide under consideration with anisotropic magnetodielectric medium. Orig. art. has: 8 references. A. M.

DATE ACQ: 16May63 ENCL: 00

SUB CODE: 00

Card 2/2

L 15063-65 EWT(d)/EWT(1)/EEJ(k)-2/EEC-4/EEC(t)/1/EEC(b)-2/EWA(h) Pn-4/Po-4/
Pq-4/Pac-4/Pg-4/Pi-4/Pj-4/Pk-4/Pl-4/Peo SSD/AFWL/ASD(a)-5/RAEM(a)/ESD(gs)/
ESD(t)

ACCESSION NR: AP4045276

8/0057/64/034/009/1649/1659

AUTHOR: Shestopalov, V.P.; Slyusarskiy, V.A.

TITLE: Experimental investigation of the diffraction of electromagnetic waves by
finite plane metallic gratings B

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.9, 1964, 1649-1659

TOPIC TAGS: electromagnetic wave diffraction, diffraction grating, microwave dif-
fraction 25

ABSTRACT: The transmission and diffraction of electromagnetic waves by finite plane metallic gratings were investigated experimentally in order to determine how large a grating must be in order adequately to approximate an infinite grating. The waves were generated by a klystron and were radiated and received by horn antennas. A single wavelength [not specified] was employed in all the measurements. The gratings were constructed by fastening strips of copper foil to a plastic support. The authors characterize a grating by the number n of strips it contains, its period L , the width D of a slot, the parameter $u = \cos(\pi D/L)$, and the ratio $x = L/\lambda$ of the period to the wavelength employed. In all of the measurements the waves were inci-

1/3

L 15063-65

ACCESSION NR: AP4045276

2

dent normally onto the grating with the electric vector parallel to the slots. Direct transmission measurements were made for the values 0, ± 0.4 , ± 0.9 of u , for values of x ranging from 0.4 to 3.0, and for values of n between 1 and 43. The results are presented graphically in the form of 70 curves showing the experimental points. Measurements were also made of the angular distribution of the diffracted radiation (still with normal incidence). These results are presented graphically by means of 27 curves on which, however, the experimental points are not shown. From their results the authors conclude that the edge effects due to the finite size of the grating can be neglected provided the ratio of the width of the grating to the width of the antenna directional pattern at the -20 db level is not less than 0.8, and that qualitative features of the angular distribution of the diffracted waves begin to appear for values of n as small as 3 to 7. The experimental results for large values of n were in adequate agreement with the calculations of Z.S.Agranovich, V.A.Marchenko and V.P.Shestopalov (ZhTF 32, No.4, 1962). "The authors thank comrades V.M.Ushakov and Ye.L.Pirotti for essential aid in performing the work." Orig. art.has: 3 formulas, 8 figures and 1 table.

2/3

L 15063-65

ACCESSION NR: AP4045276

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University)

SUBMITTED: 09Dec83

ENCL: 00

SUB CODE: EC

NR REF SOV: 005

OTHER: 003

3/3

L 10662-66 EWT(1) GG

ACC NR: AP5028311

SOURCE CODE: UR/0057/65/035/011/1984/1988

AUTHOR: ^{44, 55} Slyusarskiy, V.A.

ORG: ^{44, 55} Khar'kov State University im. A.M.Gorkiy (Khar'kovskiy gosudarstvennyy universitet)

46
43
B

TITLE: Investigation of the field diffracted by a grating

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 11, 1965, 1984-1988

TOPIC TAGS: electromagnetic wave diffraction, electromagnetic wave polarization, diffraction grating, microwave

^{21, 44, 55}
ABSTRACT: The polarization of electromagnetic waves directly transmitted by a simple plane diffraction grating (see the figure) when plane polarized waves are incident normally on it has been investigated both theoretically and experimentally. The expression for the transmitted wave when the angle γ between the electric vector of the incident wave and the direction of the grating (see the figure) is zero is taken from the work of Z.S.Agranovich, V.A.Marchenko, and V.P.Shestopalov (ZhTF, 32, No.4, 1962) and the corresponding expression for the case $\gamma = \pi/2$ is derived from it with the aid of the duality theorem of Ya.N.Fel'd (DAN SSSR, 60, No.7, 1948). From these expressions the polarization of the transmitted wave is calculated as a function of the grating parameters, the wavelength, and the angle γ , and the results are presented graphically. The theoretical findings were confirmed by microwave measure-

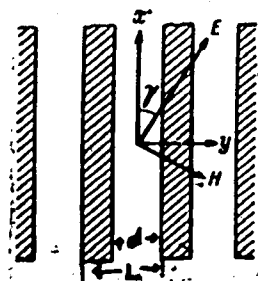
UDC:538.566

Card 1/2

2

L 10662-66

ACC NR: AP5028311



Diffraction grating

ments, using a copper foil grating on a polystyrene foam base. The apparatus and experimental technique are described elsewhere by V.P. Shestopalov and V.A. Slyusarskiy (ZhTF, 34, No.9, 1964). It was found that the transmitted wave is elliptically polarized except when $\gamma = 0$ or $\gamma = \pi/2$, when it is plane polarized in the same direction as the incident wave. The polarization is most nearly circular when $d = L/2$ (see the figure). The "ellipticity" (the ratio of the minor to the major axis of the polarization ellipse) does not exceed 0.7 when $d < L/2$ and the wavelength is less than L . When $d > L/2$, however, the ellipticity can be 0.5 or greater when the wavelength is greater than L , whereas the polarization is nearly linear when the wavelength is less than L . The author thanks V.P. Shestopalov for his interest. Orig. art. has: 13 formulas and 8 figures.

SUB CODE: 20

SUBM DATE: 06Mar65/

ORIG. REF: 004

OTH REF: 004

Cord

2/2

SECRET

Abstracts the analysis of the activity of enterprises. Machine-
generated no. 2101 5-0 181 (MIRA 18s2)

SLIVAKOV, V.Ye., inzh.

Rope stapling of synthetic filament fibers on the "Pacific Converter"
machine. Tekst.prom. 22 no.2:21-26 F '62. (MIRA 15:3)

1. Fabrika imeni Lenina Ul'yanovskogo sovnarkhoza.
(Spinning machinery) (Textile fibers, Synthetic)

SLIVAKOV, V.Ye., inzh.

Programmed fiber stapling. Tekhst.prom. 22 no.8:31-34 Ag '62.
(MIRA 15:8)

1. Zavedeyushchiy kamvol'nym proizvodstvom fabriki imeni Lenina
Ul'yanovskogo soveta narodnogo khozyaystva.
(Textile fibers, Synthetic) (Textile machinery)

SLYVAKOV, V.Ye., inzh.

Using the "Pacific Converter" machine for tow stapling of
.. rayon fibers.. Tekst.prom. 23 no.1:38-43 Ja '63. (MIRA 16:2)

1. Zaveduyushchiy kamvol'nym proizvodstvom fabriki imeni
Lenina Ul'yanovskogo soveta narodnogo khozyaystva.
(Rayon spinning)

SLIVAKOV, V.Ye., inzh.

Converter blending of synthetic and wool fibers in the simplified method for worsted spinning. Tekst. prom. 23 no.7:31-35 JI '63.
(MIRA 16:8)

1. Zaveduyushchiy kamvol'nym proizvodstvom fabriki imeni V.I. Lenina Privolzhskogo soveta narodnogo khozyaystva.
(Woolen and worsted spinning)

SLYVAKOV, V.Ye., inzh.; GUSEV, V.Ye., prof., rukovoditel' raboty

Constant and variable length in the stapling of synthetic fibers.
in the tow. Tekst. prom. 23 no.10:55-57 O '63. (MIRA 17:1)

1. Zaveduyushchiy kamvol'nym proizvodstvom fabriki imeni
V.I. Lenina Privolzhskogo soveta narodnogo khozyaystva (for
Slyvakov). 2. Zaveduyushchiy kafedroy pryadeniya `shersti
Moskovskogo tekstil'nogo instituta (for Guseva).

SLIVAKOV, V.Ye., kand. tekhn. nauk, starshiy nauchnyy sotrudnik

Using the method of controlled breaking in the stapling of
synthetic fiber tow. Tekst. prom. 25 no.8:20-23 Ag '65.

(MIRA 18:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sherstyanoy
promyshlennosti.

ACC NR: AF6014697

(A)

SOURCE CODE: UR/0342/65/000/012/0032/0035

AUTHOR: Slyvakov, V. Ye. (Senior Scientific Associate, Candidate of Technical Sciences)

ORG: TsNIIShersti

TITLE: Stapling corded chemical fiber by a controlled break method

SOURCE: Tekstil'naya promyshlennost', no. 12, 1965, 32-35

TOPIC TAGS: textile, textile industry machinery, synthetic fiber

ABSTRACT: The physical-mechanical properties of polyacrylonitrile, polyester and viscose staple obtained by controlled cutting of cords of these fibers on the "Turbo" machine were studied. Quality of the staple slivers depends on the quality of the cord and the properties of the initial fiber. Slivers of essentially similar length are needed for making a worsted yarn without combing, hence selection of the type of cutting equipment is determined by the strength and elongation of the fiber at rupture. Cutting on the "Turbo" machine results in formation of an undesirable amount of short fibers; this may be overcome by using the "Khud" shredder in conjunction with the "Turbo" stapling machine. Further studies are proposed on the effects of changing properties of the staple on the quality of the yarn and fabrics made of these fibers. Orig. art. has: 4 tables and 2 equations.

SUB CODE: 11, 13/ SUEM DATE: none

UDC: 677.46.063.05

GLADOVSKIY, I.A.; SKRUMKHOLOV, S.S.; SLYVINA, S.G.; KILACHANIDZE, A.S.

Synthesis and properties of vinyltropylium perchlorate. Izv. AN
SSSR. Ser.khim. no.7:1273-1277 J1 '63. (MIRA 16:9)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Tropylium compounds)

GERTSRIKEN, S.D. [deceased]; DEKHTYAR, I.Ya.; KRIVOGLAZ, M.A.;
LARIKOV, L.N.; LYSAK, L.I.; NESTERENKO, Ye.G.; NOVIKOV,
N.N.; SOSNINA, Ye.I.; SLYUSAR, B.F.; TIKHONOV, L.V.;
TREFILOV, V.I.; CHUISTOV, K.V.; BERLIN, Ye.N., red. izd-va;
DOLUZHINSKAYA, L.V., tekhn. red.
[Physical principles of the strength and plasticity of metals]
Fizicheskie osnovy prochnosti i plastichnosti metallov. [By]
S.D. Gertsriken i dr. Moskva, Metallurgizdat, 1963. 321 p.
(MIRA 16:12)
(Physical metallurgy)

SLYWESTROWICZ, Janusz, mgr

Book reviews. Bud okretowe Warszawa 10 no.3:108 Mr '65.

9 (2, 9)

CZECH/14-60-1-3/53

AUTHORS: Krýslová, Eva, and Šmaba, Jaromír

TITLE: The Solar Battery and its Application

PERIODICAL: Sdělovací technika, 1960, Nr 1, pp 2-3

ABSTRACT: The article's aim is to acquaint readers with the production of silicon photocells which are the basic elements of the solar battery. The producers of such photocells were mainly concerned with the increase of efficiency in transforming solar energy into electrical energy. With the laboratory samples an efficiency of 10% was achieved. These samples were manufactured of silicon monocrystals with a conductivity P and resistance of $0.6 \Omega \text{ cm}$. In order to achieve high efficiency in converting solar resistance it is necessary to produce cells with a minimum serial resistance which is given by the resistance of the material and of the contact. A diagram of the silicon photocell is given in Fig 1, while in Fig 2 the photocell is replaced by a source of constant current and an ideal transition

Card 1/3

CZECH/14-60-1-3/53

The Solar Battery and its Application

P-N. The necessary output capacity of the solar battery will be reached through a serial or parallel connection of a certain number of photocells; sometimes both types of connection are combined. For the test carried out a solar battery composed of 20 photocells was used, having an efficiency surface of 2 cm² each. The photograph of this battery is shown in Fig 4. The basic electrical parameters characterizing the solar battery are the short circuit current and the idle voltage. The dependence of the short circuit current on the light is lineary. In this region of the earth, the maximum intensity of solar light corresponds to an electrical capacity of 100 mW/cm². For all measurements the connection presented in Fig 5 was applied. The maximum capacity of the battery can be achieved at a loading resistance of about 400 ohm. The main characteristic feature of the solar battery is the efficiency of the solar energy conversion: it is the ratio between the obtained electrical capacity and the capacity of the

Card 2/3

CZECH/14-60-1-3/53

The Solar Battery and its Application

captured solar radiation. For the described solar battery this efficiency is of 8%. The efficiency of solar batteries is also influenced by the thermal characteristics of the parameters. The authors further give examples of practical applications of the silicon solar cell. It is used for the feeding of transistorized radio sets. The Czech solar battery was tested for the feeding of the T60 transistor set (Fig 4) which has a feeding voltage of 9V. Used were NiCd batteries with a capacity of 225mA and a voltage of 1.2V for each cell (Fig 11). The described solar battery was developed by the Výzkumný ústav pro sdělovací techniku A.S. Popov (Research Institute A.S. Popov) in Prague and the receiver T60 by TESLA Přelouč. Concluding the authors stress the various possible applications of solar batteries, for instance in artificial satellites and cosmic rockets. There are 2 photographs, 4 graphs, 4 circuit diagrams, 1 diagram and 5 references, 3 of which are US, 1 Soviet and 1 German.

Card 3/3

✓

BUNIN, A.V., prof., DrSc.; SMACH, L.R., architekt

"Development of town building" by E. Hruska. Reviewed by A.V.
Bunin, L.R. Smach. Stav cas 11 no.5:358-360 '63.

DRAGANESCU, Mihail, conf. ing., candidat in stiinta de Stat. SMACHILIA, Gheorghe, ing.

Plane solid inductances. Telecommunicatii 9 no.3:70-76 Mr 115.

137-1957-12-23102

Translation from: Referativnyi zhurnal, Metallurgiya, 1957, Nr 12, p 33 (USSR)

AUTHORS: Smachnaya, V. F., Sal'dau, P. Ya.

TITLE: A Physical-Chemical Investigation of the Cr_2O_3 - SiO_2 System
(Toward the Discovery of New Highly Refractory Materials)
[Fiziko-khimicheskoye issledovaniye sistemy Cr_2O_3 - SiO_2 (k probleme nakhozhdeniya novykh vysokotopnykh materialov)]

PERIODICAL: Zap. Leningr. gorn. in-ta, 1956, Vol 32, Nr 3, pp 313-316

ABSTRACT: An equilibrium diagram of the Cr_2O_3 - SiO_2 system was constructed from the results of an investigation conducted by the method of thermo-chemical and microscopic analysis. From the fusibility curve and by means of a microscopic analysis it was established that there exists in the Cr_2O_3 - SiO_2 system a chemical compound which corresponds to the composition of $\text{Cr}_2\text{O}_3 \cdot 3\text{SiO}_2$ and which melts at 1995° without decomposition. Two eutectics were established: a) 65 mol.percent Cr_2O_3 and 35 mol.percent SiO_2 with the melting point at 1750° ; b) appx. 5 mol.percent Cr_2O_3 and appx. 95 mol.percent SiO_2 with a melting point at appx. 1680° .
A. S.

Card 1/1

1. Minerals-Physical investigations
2. Minerals-Chemical investigations
3. Cr_2O_3 - SiO_2 -Applications

S/148/62/000/011/013/013
E079/E151

AUTHOR: Smachnaya, V.F.
TITLE: A physicochemical investigation of the ternary system
 $\text{Cr}_2\text{O}_3\text{—ZrO}_2\text{—SiO}_2$
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya
metallurgiya, no.11, 1962, 191-195
TEXT: Since the system has not been studied before, the
author studied nine cross-sections parallel to the $\text{ZrO}_2\text{—SiO}_2$ sides
of the diagram for 10, 15, 20, 30, 50, 60, 70 and 80 mole % of
 ZrO_2 , as well as the pseudo-binary $\text{ZrO}_2\text{—Cr}_2\text{O}_3\cdot 3\text{SiO}_2$ system.
As a basis for the construction of the phase diagram the latest
data for binary systems: $\text{ZrO}_2\text{—SiO}_2$, $\text{Cr}_2\text{O}_3\text{—ZrO}_2$, and $\text{Cr}_2\text{O}_3\text{—SiO}_2$
were used. The ternary system was investigated using thermal,
chemical and microscopic methods. Chemically pure oxides were
used as starting materials. The specimens were melted with an
oxy-acetylene flame in a special furnace lined with zirconium
dioxide. Melting temperatures were measured with an optical
Card 1/3

A physicochemical investigation ... S/148/62/000/011/013/013
E079/E151

pyrometer, calibrated to 3000 °C, using the melting points of platinum, aluminium oxide, calcium oxide and zirconium oxide melted under the experimental conditions employed in the work. From the results obtained the liquidus diagram was constructed. In addition to four eutectic points belonging to the binary systems: E₁, 1880 °C for Cr₂O₃-ZrO₂; E₂, 1760 °C and E₃, 1680 °C for Cr₂O₃-SiO₂; E₄, 1705 °C for ZrO₂-SiO₂, there are two ternary eutectics E₅, 15 mole % ZrO₂, 30 mole % Cr₂O₃, 55 mole % SiO₂, melting temperature 1700 °C; E₆, 10 mole % ZrO₂, 85 mole % Cr₂O₃, 5 mole % SiO₂, melting temperature 1660 °C, and a pseudo-binary eutectic E₇ (on the line joining ZrO₂ with Cr₂O₃·3SiO₂), 15 mole % ZrO₂, 21.25 mole % Cr₂O₃, 63.75 mole % SiO₂, maximum melting temperature 1840 °C. The boundary lines dividing the projection of the liquidus surface into the fields of separation of primary phases were: 1) Cr₂O₃ in the field Cr₂O₃ E₁, E₅, E₂; 2) Cr₂O₃·3SiO₂ in the field E₂, E₅, E₆, E₃; 3) ZrO₂ in the field ZrO₂,

Card 2/3

A physicochemical investigation ... S/148/62/000/011/013/013
E079/E151

E_1 , E_5 , E_7 , E_6 , E_4 , ZrO_2 ; 4) SiO_2 in the field SiO_2 , E_3 , E_6 , E_4 .
The appearance of the primary phases is described.
There are 3 figures.

ASSOCIATION: Leningradskiy gornyy institut
(Leningrad Mining Institute)

SUBMITTED: March 10, 1961

Card 3/3

ACCESSION NR: AT4043066

S/2834/63/042/003/0041/0046

AUTHOR: Smachnaya, V. F.

TITLE: Dissemination boundaries of ternary solid solutions in the system chromium trioxide + zirconium dioxide - silica

SOURCE: Leningrad. Gorny'y institut. Zapiski, v. 42, no. 3, 1963. Khimiya, metallurgiya, obogashcheniye (Chemistry, metallurgy, ore concentration), 41-46

TOPIC TAGS: zirconium dioxide, silica, chromium trioxide, ternary solid solution, ternary system dissemination, phase composition analysis, crystalline phase structure, melting point determination, critical constituent concentration

ABSTRACT: A group of 19 ternary mixtures (4 with 3 mol. % chromium oxide, 3 with 5 mol. % and 2 with a higher content; 6 with 3 mol. % silica, 4 with 5 mol. %) was subjected to thermal analysis (melting point determination), chemical analysis, as well as microscopic and x-ray studies of phase composition and structure of the crystalline phases. The results are plotted graphically (see Fig. 1 in the Enclosure) and indicate that the ternary solid solutions forming in this system do not exceed 5 mol. % Cr_2O_3 and 10 mol. % SiO_2 from the zirconium dioxide side, or 25 mol. % ZrO_2 and 3 mol. % SiO_2 from the chromium oxide side. Orig. art. has: 4 figures and 1 table.

CAT 1/3

ACCESSION NR: AT4043066

ASSOCIATION: Leningradskiy ordenov Lenina i Trudovogo Krasnogo Znameni gornyy
institut im. G. V. Plekhanova (Leningrad Mining Institute)

SUBMITTED: 00

ENCL: 01

SUB CODE: IC

NO REF SOV: 004

OTHER 003

Card

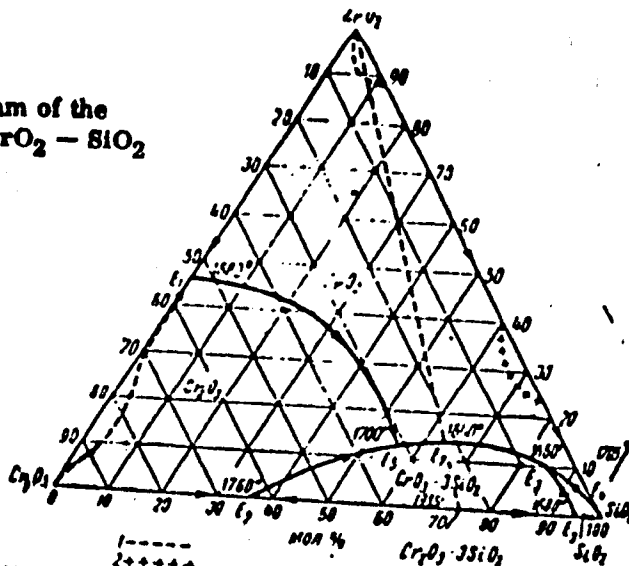
2/3

ACCESSION NR: AT4043066

ENCLOSURE: 01

Fig. 1 - - Equilibrium diagram of the
system $\text{Cr}_2\text{O}_3 - \text{ZrO}_2 - \text{SiO}_2$

- 1 - solid solution boundary
- 2 - liquation region
- $E_1 - E_7$ are eutectic points.



Card

3/3

HORNUNG, Stanislaw; KOWALCZYKOWA, Janina; KULIG, Andrzej; POLONCZYK, Mieczyslaw; ROKITA, Zofia; SMACZNA, Danuta.

Effect of INH and SM therapy of experimental tuberculosis caused by strains with a low INH-resistance. Gruzlica 31 no.12:1177-1184 D'63.

1. Z Kliniki Ftizjatrycznej (kierownik: prof. dr. St. Hornung) i z Zakładu Anatomii Patologicznej AM w Krakowie (kierownik: prof. dr. J. Kowalczykowa).

✱

SMALL, J. R., JR., 1964, p. 10, fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836

Control of railroad operations in a coalfield district. 2d ed.
 text. 13 no.1:Suppl:1-8 1968.

1. Head of the Unit of Operations, National Labor (for Smadl).
2. Director of the National Light District (for Aus-
bauer). 3. Head of Transportation Service of the Poly Vitezneho
under National Enterprise (for Stary). 4. Director of the Poly
V. J. National Enterprise, Komorany (for Zeman). 5. Head
of Transportation Service of the Coal Preparation Plant, Komorany
(for Bradac). 6. Chief of the Most Railroad Junction (for Siki).

SMAGDA, I.

85-8-11/18

AUTHOR: Smaga, I., MajGen of Aviation (Res), Member of the
Communist Party of the Soviet Union since May 1957

TITLE: Defending the Gains of the Great October Revolution
(Zashchishchaya zavoyevaniya Velikogo Oktyabrya)

PERIODICAL: Kryl'ya Rodiny, 1957, Nr 8, pp. 20-21 (USSR)

ABSTRACT: The article, which is given the form of recollections
by the author of some of his experiences during the Octo-
ber 1917 Revolution, is aimed at stressing the importance
of the part the Communist party played in these events.
The article contains no data of scientific value. It
(a) describes the psychological effects of the appear-
ance of Lenin at a political meeting of the workers of
the Petrograd Putilovskiy plant at the very beginning
of the Revolution; (b) outlines the difficult conditions
of work of an aviation unit fighting the Poles in 1920;
and (c) gives some details on the activities of the po-
litical commissars in the Red Army, directed assertedly
at supporting the authority of the cadres. A biographi-
cal sketch accompanying the article presents the author

Card 1/2

85-8-11/18

Defending the Gains of the Great October Revolution (Cont.)

as a simple communist workman, who, had very early joined the Red air forces, succeeded in reaching a high military rank, and is now a prominent member of the Leningrad DOSAAF Club of Sportsmen-Aviators (Leningradskiy Aviatseonno-Sportivnyy Klub DOSAAF). One photo.

AVAILABLE: Library of Congress

Card 2/2

L 47415-66 JM
ACC NR: AT602877

SOURCE CODE: PO/2507/66/016/051/0023/0031

AUTHOR: Snaga, J. --Smaga, Z.

ORG: none

TITLE: Circuit for the calibration of noise generators operating in the L-band

SOURCE: Warsaw. Przemyslowy Instytut Telekomunikacji. Prace, v. 16, no. 51, 1966, 23-31

TOPIC TAGS: circuit theory, L band, noise generator, waveguide

ABSTRACT: A measuring circuit is analyzed which makes it possible to calibrate a noise generator operating in the L-band with an error smaller than ± 0.3 db. In the technical description of the circuit, two main units are defined: the reference voltage source and the comparative circuit (comparator). The reference voltage is a thermal noise standard with an output power-density spectrum determined on the basis of physical laws. The basic element here is a ceramic wedge situated in a waveguide FP 165 x 32 and preheated in an electric oven at a temperature of about 500C. The output power of the thermal noise

UDC: 621.391.822.03
SKT 429

Card 1/2

MYSAKOWSKA, Helena; PIETRON, Eugeniusz; SIKORA-ROZYNSKA, Maria;
SMAGA, Marta; LITWIN, Barbara; RYBICKA-STRYJECKA, Zofia

Results of antibacterial treatment of pulmonary tuberculosis
in patients with primary resistance to drugs. Pol. tyg. lek.
20 no.19:686-688 10 My '65.

1. Z Katedry Ftyzjatrii AM w Lublinie (Kierownik: doc. dr.
H. Mysakowska).

SMAGA, Marta; SMAJKIEWICZ, Ludwik; SAWA, Jerzy

A case of generalized scleroderma with pulmonary and other internal changes. Gruzlica 32 no.1:55-59 Ja'64

1. Z Katedry i Kliniki Ftizjatrycznej (Kierownik: doc.dr. H.Mysakowska) z Zakładu Radiologii (Kierownik: doc.dr. K.Skorzynski) i z Zakładu Anatomii Patologicznej (Kierownik: prof.dr. S.Mahrburg) AM w Lublinie.

*

SMAGA, M.F.

Localized dysentery outbreak in a ward of a psychoneurological hospital.
Zhur. mikrobiol. epid.i immun. 29 no.12:114 D '58. (MIRA 12:1)

1. Iz L'vovskoy respublikanskoy psikhonevrologicheskoy bol'nitsy.
(DYSENTERY)

SMAGA, M.F.

Characteristics of typhoid and paratyphoid bacteria transmission among
mental patients. Vrach.delo no.10:1085 0 '59. (MIRA 13:2)

1. L'vovskaya respublikanskaya psikhonevrologicheskaya bol'nitsa.
(TYPHOID FEVER) (PARATYPHOID FEVER) (MENTALLY ILL)

SMAGA, M.F.

Clinical aspects of staphylococcal food poisoning; author's
abstract. Zhur.mikrobiol.epid. i immun. 30 no.5:123-124
My '59. (MIRA 12:9)

1. Iz L'vovskoy respublikanskoy psikhonevrologicheskoy bol'nitsy.
(FOOD POISONING, case reports,
staphylococcal (Rus))
(MICROCOCCAL INFECTIONS, case reports,
food pois. (Rus))

SMAGA, H.F.

Role of bacteria carriers in the epidemiology of sporadic typhoid-paratyphoid cases in mental patients. Zhur.mikrobiol. epid. i immu. 30 no.5:146-147 My '59. (MIRA 12:9)

1. Iz L'vovskoy respublikanskoy psikhonevrologicheskoy hol'-nitsy.

(TYPHOID FEVER)

(PARATYPHOID FEVER)

SMAGA, M.F.; YEGOROV, I.F.

Diagnosis of toxoplasmosis in mental patients. Vrach. delo no.9:
87-89 S '60. (MIRA 13:9)

1. L'vovskaya respublikanskaya psikhonevrologicheskaya bol'nitsa
(Nauchnyy rukovoditel' - zasl. deyatel' nauki, prof. Ye.V. Maslov).
(TOXOPLASMOSIS) (MENTAL ILLNESS)

SMAGA, M.F.; PAVLOVA, Ye.Ye.

Epidemiological and etiological characteristics of the outbreak of influenza in winter 1959 in a psychoneurological hospital. Zhur. mikrobiol. epid. i immn. 31 no. 10:119-121 0 '60. (MIRA 13:12)

1. Iz L'vovskoy respublikanskoy psikhonevrologicheskoy bol'nitsy.
(L'VOV—INFLUENZA) (MENTAL DISORDERS)

Shchegolev, M. G.; PAVLOVA, Yy. Ye.; YENIGOROV, I.Y. and KOVALYUKH, A.I.

"The G. P. T. and I. G. T. in Diagnosis of Toxoplasmosis"

Voprosy toksoplazmoza, report theses of a conference on toxoplasmosis.
Moscow, 3-5 April 1961, publ. by Inst Epidemiology and Microbiology
im. N. F. Gamaleya, Acad. Med. Sci USSR, Moscow, 1961, 69pp.

SMAGA, M.F.

Case of typhoid fever spesis in mental patient. Vrach. delo no. 3:118-
119 Mr '61. (MIRA 14:4)

1. L'vovskaya respublikanskaya psikhonevrologicheskaya bol'nitsa.
(TYPHOID FEVER) (MENTAL ILLNESS)

SMAGA, M.F.

Detection of typhoid fever during the incubation stage in a female
mental patient. Zhur.mikrobiol., epid.i immun. 32 no.12:112-113
D '61. (MIRA 15:11)

1. Iz L'vovskoy respublikanskoy psikhonevrologicheskoy bol'nitsy.
(TYPHOID FEVER) (MENTALLY ILL)

SMAGA, M.F.

Infectious and toxix (aminazine) hepatitis in mental patients.
Vrach. delo 4:102-107 Ap '62. (MIRA 15:5)

1. L'vovskaya psikhonevrologicheskaya bol'nitsa. Nauchnyy rukovoditel'
- zasluzhennyy deyatel' nauki, prof. Ye.V.Maslov.
(HEPATITIS, INFECTIOUS) (MENTAL ILLNESS)
(CHLORPROMAZINE)

YEGOROV, I.F.; KOVALYUKH, A.I.; SMAGA, M.F.; PAVLOVA, Ye.Ye.

Comparative indices of the complement fixation reaction and
intracutaneous test in the diagnosis of toxoplasmosis. Zhur.
mikrobiol. epid. i immun. 33 no.10:51-54 0'62 (MIRA 17:4)

1. Iz L'vovskoy oblastnoy psikhonevrologicheskoy bol'nitsy.

YEHOROV, I.F.; SMAGA, M.F.

Some data on toxoplasmosis in the western provinces of the
Ukraine. Med. parazit. i parazit. bolezni. 1963. N-D '63.
(MIRA 18:1)

1. Iz L'vovskoy respublikanskoy poliklinicheskoy bol'-
nitsy (glavnyy vrach A.I. Kovalyuk; naukovyy rukovoditel'
zasluzhennyy deyatel' nauki prof. I.F.Yehorov).

SMAGA, M.F.

Case of further isolation of bacteria from a typhoid fever carrier after
cholecystectomy. Zhur. mikrobiol., epid. i immun. 40 no.11:140 N '63.
(MIRA 17:12)

1. Iz L'vovskoy oblastnoy psikhiatricheskoy bol'nitsy.

SMAGA, M.F.; SHEVELEV, G.M. (L'vov)

Case of extrarenal uremia in a patient with epilepsy. Klin.
med. 41 no.6:143-145 Je '63. (MIRA 17:1)

1. Iz L'vovskoy oblastnoy psikhonevrologicheskoy bol'nitsy
(glavnyy vrach A.I. Kovalyukh, nauchnyy konsul'tant raboty -
dotsent Yu.I. Detsik).

SMAGA, M.F.

Results of smallpox revaccination in adult in 1957, 1960 and
1962. Zhur. mikrobiol., epid. i imm. 41 no. 2:48-52 P '64.
(MIRA 17:9)

1. L'vovskaya oblastnaya psikhiatricheskaya bol'nitsa.

SMAGA, M.F.

Case of oligophrenia combined with arachnodactyly developed
on the basis of congenital toxoplasmosis. Zhur. nev. i
psikh 64 no.7:1043-1047 '64. (MIRA 17:12)

L. I'vovskaya oblastnaya psikhiatriceskaya bol'nitsa (glavnyy
vrach B.V. Muravich, nauchnyy rukovoditel' - prof. Ye.V. Maslov).

L 27926-66 EWT(1)/T RO/JK

ACC NR: AP6017747

SOURCE CODE: UR/0246/65/065/006/0920/0923

AUTHOR: Smaga, M. F.

ORG: L'vov Regional Psychiatric Hospital/head physician-B.V. Murovich;
scientific director-Professor Ye.V. Maslov/ (L'vovskaya oblastnaya
psikhiatricheskaya bol'nitsa)

TITLE: Acute liver degeneration after chlorpromazine therapy

SOURCE: Zhurnal nevropatologii. i psikhiiatrii, v. 65, no. 6, 1965, 920-923

TOPIC TAGS: therapeutics, tranquilizer, drug effect, liver, pathology, hepatitis, man

ABSTRACT: The author describes a fatal case of hepatitis in a 38 year old patient with the catatonic form of schizophrenia treated with two courses of chlorpromazine (total dose 17.6 g, 200 mg daily). After analyzing the epidemiological, clinical, laboratory, and pathological data, the author argues that liver degeneration was the result of severe infectious hepatitis rather than the toxic hepatitis due to administration of chlorpromazine that usually follows a benign course.

Infectious hepatitis must be clearly differentiated from toxic hepatitis in a psychiatric hospital, especially in patients treated with chlorpromazine, insulin, etc. The wide and effective use of these drugs would be curtailed if they were wrongly held to be responsible for infectious hepatitis. /JPRS/

Cord 1/1 SUB CODE: 06/ SUBM DATE: 12Dec63 / ORIG REF: 006/ OTH REF: 001-

DOC: 616.36-882.4-82: 615.786-099

MYSAKOWSKA, E.; WIERZBI, M.; SMAGA, N.; GORSKA, S.; CYGAN, E.; SZAREWICZ, W.
SIKORA-ROZYNKA, J.; JARZYNA, J. (Lublin)

Cases of delay and neglect in the treatment of pulmonary tuberculosis among the rural population. Gruzlica 31 no.6:674-676
Ja'63.

*

AUTHOR: Smaga, M.N., Engineer

110-3-16/22

TITLE: The Use of Standard Resistance Boxes, type AC2 Number 5 under Conditions of Short-term Passage of Heavy Current (Primeneniye standartnykh yashchikov soprotivleniya tipa YaS2 no. 5 v usloviyakh kratkovremennoy nagruzki znachitel'nykh tokom)

LITERATURE: Vestnik Elektromyshlenosti, 1978, Vol.29, No.3, pp. 66 - 68 (USSR).

ABSTRACT: Standard resistance boxes, type AC2, which have performed very well, are made up of stacks of flat cast-iron resistance elements of the type having labyrinthine profile. Cast-iron elements are mainly used in equipment intended for heavy current. Elements of the largest size, type AC2-0.005, are assembled into resistance box AC2, No.5. A box of 20 such elements has a resistance of 0.1 Ω and can pass a steady current of 215 A; this rated current corresponds to a temperature rise of 235 °C. It is often necessary to use these boxes for short times for currents of some thousands of amps. This article reports upon the experimental over-loading of the box. All the spirals were tested with 50 c/s a.c. and some tests were made with d.c. From 8 to 20 elements were connected in series and current applied until they became red hot. The

Card 1/3

115-5416/22
 Resistance Heater, Type 40-10
 Analysis of Image of Heavy Current

... were used for the current/time curve plot as in Fig. 2. ... it heat uniformly: those near the middle ... those on the outside. It was decided that ... the elements appeared and was a good limiting ... in Fig. 1 that with a current of ... A, the element became red in five seconds. ... a group of elements connected to a ... large power transformer. Current was ... 0.1 sec. before being automatically disconnected. ... 2 500 A or more, sparking occurred ... and at currents of 3 000 - 4 000 A, the ... , though hardly warm. Apparently this is because of ... by electro-dynamic forces to each other. ... all the elements in one or several ... of assembly instead of burning This is illustrated in Fig. 3. ... interaction between currents in ... apart and not together. Any change in ... and increases the force ... between it

110-7-16/22

and that this arrangement so much improved the
that weaknesses did not occur, even the corners

As determined the loads that may be applied to these no. bones without mechanical damage; the results are listed. Considerable local thermal action is observed because of the tests is indicated in Fig. 2 and 3. The use of short-time application of 10 000 A is shown with the arrangement of elements due to a burn in the test area and in the way they are indicated in Fig. 2 and 3, respectively. The normally used electrical equipment, including electrodynamic forces, minor strains arranged in the tested way remained intact. There are 5 figures and 1 table.

: Khar'kov Electro-mechanical Works (Khar'kovskiy
elektromekhanicheskiy zavod,
Khar'kov)

Library of Congress

1. Resistance circuits-Test methods
Test results

L 48820-65

ACCESSION NR: AP5007533

S/0292/65/000/003/0031/0033

AUTHOR: Smaga, N. N. (Engineer); Namitkov, K. K. (Candidate of physico-mathematical sciences); Nemov, V. V. (Engineer) 6
B

TITLE: Investigation of the forces and movements in contacts of circuit-breakers during short-circuits

SOURCE: Elektrotehnika, no. 3, 1965, 31-33 36-

TOPIC TAGS: circuit breaker, electrodynamic force, contact rebound 10

ABSTRACT: Tests are described for determining the maximum values and variations of the compensator force, the electrodynamic force, and the compensator-caused movement of movable contacts in a three-pole circuit-breaker model. A 200-amp circuit-breaker with a contact-spring pressure of 6-8 kg and a KhEMZ contact-rebound compensator was tested. A maximum compensator force at the lever end of 69-93 kg was measured with maximum

Card 1/2

L 48820-65

ACCESSION NR: AP5007533

currents of 34—40 ka and a single-phase short-circuit. This force reached 130—140 kg with a three-phase 30—36 ka short-circuit. The maximum was reached by the end of the first half-wave; after the aperiodic component of the short-circuit current had died away, the end-lever force oscillated with a double frequency. Construction and location of the tensosensors used in the tests are briefly described. Orig. art. has: 6 figures, 3 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EE

NO REF SOV: 002

OTHER: 000

Card 2/2

.. SMAGA, N.N., inzh.; SKORODINSKIY, Kh.I., inzh.

Measures against electrodynamic throws of contactors in electrical
apparatus. Vest. elektroprom. 34 no.1:12-18 Ja '63. (MIRA 16:1)
(Electric contactors)

GERMANYUK, Ya.L. [Hermaniuk, I.A.L.]; DEMCHUK, M.V.; GAVRILETS, Ye.S.
[Havrylets', I.E.S.]; SMAGA, Z.I. [Smaha, Z.I.]

Effect of small doses of the ribonucleic acid of yeast on
the electrocardiogram in animals. Fiziol. zhur. [Ukr.] 9
no.5:671-673 S-O'63 (MIRA 17:4)

1. Kafedra biokhimii i zoogigiyeny L'vovskogo zooveterinar-
nogo instituta.

SMAGALA, K.

New methods of drying beans.

p. 19
Vol. 6, no. 8, Aug. 1955
GOSPODARKA ZROZOMA
Warszawa

AGRICULTURE

SO: Monthly List of East European Accessions (EFAL), LC, Vol. 5, no. 2
Feb. 1956

000000, 000

The problem of the drying beans. p. 12, 000000 000000.
Vol. 7, No. 4, Apr. 1956. Warszawa.

East European Accessions List (EEAL) Library of Congress
Vol. 5, No. 11, August 1956.

SMAGALA, K.

SMAGALA, K. For correctness of grain testing. p. 30. Vol. 7, no. 11,
Nov. 1956. PRACOWNIA ZBOZOWA. Warszawa, Poland.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

1. VIANNITROV, S.M.; TORNOVSKIY, V.M.; SMAGARINSKIY, M.A.
2. USER (600)
4. Concrete Construction
7. Pouring concrete by using small, portable trestles, Engs, S.M. Vladimiorv; V.M. Tornovski; M.A. Smagarinskiy; Gidr.stroi. 22 no. 3, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

~~SECRET~~
ROSA, I., doktor; PETR, V., inzh.; ~~SMAGEL, I.~~ [Smagel, I.] (Brno)

More on the kilning of crushed limestone. Stroi. mat. 4 no.1:34-35
Ja '58. (MIRA 11:2)

(Brno--Limestone)
(Drying apparatus)

SMAGIN, A.

Large plots of land for schools of mechanization. Prof.-tech. obr.
13 no.10:3 0 '56. (MIRA 9:11)

1. Traktorist zernosovkhoza "Kitmanovskiy, "Altayskiy kray.
(Farm mechanization--Study and teaching)

Smagin A.
LEVENSHTEYN, G.; SMAGIN, A.

In the atomic research city on the Volga. IUn.tekh. no.8:48-52
Ag '57. (MLBA 10:8)

(Dubna--Atomic energy research)

SMAGIN, H. G.

Category : USSF/Radiophysics - Generation and Conversion of Radio-frequency I-4
Oscillations

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4480

Author : Plonskiy, A.F., Smagin, A.G., Shembel', B.K.

Title : Quartz Resonator with a Q Greater than Ten Million

Orig Pub : Izmerit. tekhnika, 1956, No 3, 51-52

Abstract : Report on the development of evacuated quartz resonator for 500 kc with a record high Q of 1.7×10^7 . The width of its resonance curve $2\Delta f \leq 0.05$ cycles, and therefore Q was measured from the attenuation time of the free oscillations ($\tau \approx 11$ seconds). The prepared resonator represents a polished quartz lens with a AP section, 38 mm in diameter, and 3.8 mm thick in the center. Another 500 kc resonator (with 18 mm diameter) had a $Q \geq 2 \times 10^6$.

Card : 1/1

SMAGIN, A. G.

"Quartz Resonator With 17 Million Q-Factor," by A. G. Smagin,
Izmeritel'naya Tekhnika, No 1, Jan-Feb 57, pp 41-42

A Q-factor of the order of 17 million was attained for this quartz resonator by reducing the energy of dissipation, by means of improved mounting of quartz lens at three points, elimination of parasitic resonances, thermal and ionic treatment in high vacuum, utilization of the effect of crystal anisotropy, and careful finishing of the surface with subsequent washing in highly refined alcohol. This quartz lens with its mounting was placed in an evacuated glass envelope.

The high Q of this quartz resonator permitted determination of the exact nature of various effects, as: dependence of Q-factor on anisotropy of amplitude fluctuation and the effect of recovery of elastic properties after removal of load, the latter being interesting from the standpoint of studying the problem of elastic fatigue.

Quartz lenses of high Q can be used as primary standards of frequency and time. (U)

Secm. 1360

107-57-3-29/64

AUTHOR: Smagin, A.

TITLE: Superhigh-Q Quartz Resonators

(Kvartsovyye resonatory sverkhvysokoy dobrotnosti)

PERIODICAL: Radio, 1957, Nr 3, pp 28-29 (USSR)

ABSTRACT: The basic parameter determining the resonance properties of an oscillatory system is its Q-factor. The Q factor of a coil-capacitor oscillatory system goes up to a few hundreds. SHF resonating cavities have Q-factors of tens of thousands. Quartz resonators have still higher Q-factors. First specimens of quartz resonators which appeared in the Twenties had a Q-factor of about 10,000. Further improvements sent the Q-factor beyond the 100,000 mark in the Thirties. In 1954, American publications announced a quartz resonator with a Q-factor of 12,000,000. In 1956, a quartz resonator having a Q-factor of 17,500,000 was developed at Vsesoyuznyy nauchno-issledovatel'skiy institut fizikotekhnicheskikh and radiotekhnicheskikh izmereniy (the All-Union Scientific and Research Institute of Physico-technical and Radiotechnical Measurements). A. F. Plonskiy and B. K. Shembel' took part in that development. One such resonator was displayed at the All-Union Industrial Exhibition (the Metrology

Card 1/3

107-57-3-29/64

Superhigh-Q Quartz Resonators

Pavillion). The article explains how such a superhigh Q-factor was arrived at and how it was measured. The losses in a quartz resonator are due to friction at the point of attachment of the quartz plate, friction in the surface layer of the crystal, friction within the body of the crystal, ultrasonic radiation and, finally, coupled oscillations. The resonator described in the article is intended for the most stable frequency oscillators such as used in the primary frequency standard. The diurnal stability of a modern primary standard is of the order of 10^{-10} . This means that its frequency drift is under a few hundred millionths of 1% per day. A polished quartz 500-kc lens, 38 mm in diameter and 3.8 mm thick in the center, is used in the resonator. The lens is nonmetalized and has a sharp edge. It is mounted in a crystal holder. There are 5-mm gaps between the electrodes and the surfaces of the crystal. The crystal holder with the lens is placed into a glass vacuum envelope. The Q-factor of the resonator is measured by a method of free damping oscillations. The quartz resonator is introduced into the feedback/four-terminal network of a three-tube oscillator (circuit given). The four-terminal network serves for phase reversal and for transformation of the oscillatory voltage. Both circuits of the four-terminal network are tuned to the

Card 2/3

Superhigh-Q Quartz Resonators

quartz resonant frequency. Oscillatory voltage is measured by a calibrated oscillograph. The Q-factor measurement starts with the breaking of anode circuits of the tubes. The time period is measured from the point when the anode supply up to the point when the oscillatory-voltage amplitude drops 2.7 times. A simple formula serves to calculate the Q-factor. There are three figures in the article.

Card 3/3

AUTHOR

Shmidt, A.G.

PA - 2115

TITLE

On the Problem of the Part Played by Interior Friction in the Crystals of a Piezoquartz (K voprosu o roli vnutrennego treniya v kristallakh p'yezokvarca).

PERIODICAL

Doklady Akademii Nauk SSSR, 1957, Vol 112, Nr 3, pp 425-426 (U.S.S.R.)

Received 3/1957

Reviewed 4/1957

ABSTRACT

This problem could hitherto not be solved because the resonators used for this experiments had a considerable logarithmic decrement of damping. Two kinds of losses must be distinguished as a consequence of the interior friction in a real quartz crystal 1.) interior friction by defects, for in a real crystal there are inhomogeneities of the lattice, dim spots, "phantoms", "blue needles", interior gaps, empty places, twin formations, etc. Therefore the fact of the existence of an interior friction which is due to defects cannot be doubted. 2.) The actual interior friction of the crystal as a macroscopic system of coherent charged particles. This kind of interior friction is due to the interaction of ions and occurs not only in perfect but also in real crystals. This interaction is bound to entail the occurrence of a dissipative component for electromagnetic energy. An essential part in connection with interior friction is probably played by losses through radiation.

In every real crystal these two kinds of friction occur jointly, and therefore they can not be completely separated. The coefficient of interior friction is a statistical quantity. The author determined the coefficient of interior friction in the case of four quartz resonators and found

Card 1/3

PA - 2115

On the Problem of the Part Played by Interior Friction in the Crystals of a Piezoquartz.

the same value for this coefficient in the case of all four resonators. The measuring method is discussed in short. The crystal was turned on a lathe into a biconvex lens after which it was excited in a generator scheme. During measuring the anode chain of the generator was switched off and the free, damped oscillations were transferred from the crystal to the input of a synchroscope. The quality of the oscillating system is a function of the dissipation of energy per oscillation period. For quality, among others, the following formula is given: $Q = \omega L_q / R_q$, where $R_q = R_{qr} + R_{qi} + R_{qf} + R_{qs} + R_{qo}$ applies. Here R_{qr} denotes the energy losses by ultrasonic radiation, R_{qi} the energy losses caused by coupled oscillations (these losses are equal to zero in the case of a lens-shaped resonator), R_{qf} the losses caused by friction at points of attachment, R_{qs} the energy loss caused by friction in the surface layer. In this connection the influence exercised by R_{qf} predominates. Here it is shown how R_{qf} can be reduced to a minimum. In order to diminish the influence exercised by surface losses still more, the author excited quartz lenses in harmonics. According to the author's opinion the part played by interior friction in the crystals of a piezoquartz is of but minor importance.
(No illustrations)

Card 2/3

24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215

Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleeva

Referaty nauchno-issledovatel'skikh rabot; sbornik No. 2 (Scientific Research Abstracts; Collection of Articles, No. 2) Moscow, Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, ser. 1 Imeritel'nykh priborov.

Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, researchers, and engineers engaged in developing standards, measures, and gages for the various industries.

COVERPAGE: The volume contains 128 reports on standards of measurement and control. The reports were prepared by scientists of institutes of the Komitet standartov, ser. 1 Imeritel'nykh priborov pri Sovete Ministrov SSSR (Commission on Standards, Measures, and Measuring Instruments under the USSR Council of Ministers). The participating institutes are: VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy metrologii imeni D.I. Mendeleeva (All-Union Scientific Research Institute of Metrology imeni D.I. Mendeleev) in Leningrad; Sverdlovsk branch of this institute; VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta standartov, ser. 1 Imeritel'nykh priborov (All-Union Scientific Research Institute of the Commission on Standards, Measures, and Measuring Instruments) from MGIMIP - Moskovskiy gosudarstvennyy institut ser. 1 Imeritel'nykh priborov (Moscow State Institute of Measuring Instruments) October 1, 1955; VNIIPRI - Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radioelektricheskikh izmereniy (All-Union Scientific Research Institute of Physico-technical and Radio-engineering Measurements) in Moscow; MGIMIP - Kharkovskiy gosudarstvennyy institut ser. 1 Imeritel'nykh priborov (Kharkov State Institute of Measures and Measuring Instruments); and MGIMIP - Novosibirskiy gosudarstvennyy institut ser. 1 Imeritel'nykh priborov (Novosibirsk State Institute of Measures and Measuring Instruments). No personalities are mentioned. There are no references.

Tovchigrechko, S.S. (VNIIM). Studying Recurrent Errors of Micrometric Screws of Level Triers 45

Solov'yeva, L.A. (VNIIM). Studying the Curvature of the Tube of a Valve 45

Belykh, L.D., V.P. Lubenikov, S.M. Oshotina, and P.A. Shpan'on (MGIMIP). Widening the Spectrum of Standard Frequencies Produced by the Kharkov Standard Frequency Unit to 10¹⁰ Cycles per Second 47

Basilev, A.G. (VNIIPRI). Quartz Resonator With a Quality Factor 48

Grinenko, I.V., Ye.D. Novgorodov, M. Kh. Meparidze, T.S. Qusmanuk, Yu.M. Libin, and A.I. Samoylovich (MGIMIP). Developing Quartz Elements of Oblique Cut 49

Bryzhev, L.D., S.D. Zabel'nikov, V.M. Titov, P.P. Yestaf'yev, and V.I. Turenko (MGIMIP). Developing and Studying Simple and Suitable Oscillators and Convertors of High Stability for Time and Card 10/27

SCV/58-59-9-20907

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 9, p 210 (USSR)

AUTHOR: Smagin, A.G.

TITLE: Precision Quartz Resonators

PERIODICAL: Tr. Vses. n.-i. in-ta fiz.-tekhn. i radiotekhn. izmereniy, 1958, Nr 2, pp 44 - 57

ABSTRACT: This is a review article describing the technology of the manufacture, as well as the operating characteristics, of precision quartz resonators intended as time and frequency standards. The author discusses the causes behind the dissipation of the vibrational energy of the quartz resonator, as well as methods of eliminating these causes. He examines the factors affecting the temperature coefficient of the frequency of quartz resonators. He notes the existence of a zero temperature-coefficient of frequency for "AT"-cut quartz lenses and indicates the angle of cut that is necessary to obtain this value. He considers the question of designing single-frequency resonators and provides data concerning the polishing and purity of the surface of the quartz resonator, their connection with

Card 1/2

SOV/58-59-9-20907

Precision Quartz Resonators

physicochemical processes on the surface of the resonator, and their effect on the Q-factor. He analyzes the cause of the aging of quartz resonators and the possibility of obtaining a regular course of the aging process. The bibliography contains 20 titles.

Ye.D. Novgorodov

Card 2/2